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| 09/748,310 | 12/26/2000 | Robert Chandler | M894.312-6 | 4417 |
| 164 | 7590 | 10/08/2003 | EXAMINER | |
| KINNEY & LANGE, P.A. THE KINNEY & LANGE BUILDING 312 SOUTH THIRD STREET MINNEAPOLIS, MN 55415-1002 | | | ZIMMERMAN, GLENN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2879 | |

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/748,310

Applicant(s)

CHANDLER ET AL.

Examiner

Glenn Zimmerman

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9, 12-17 and 19-24 is/are allowed.
- 6) ☒ Claim(s) 10, 11 and 18 is/are rejected.
- 7) ☒ Claim(s) 10 and 20-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Amendment, filed on July 23, 2003, has been entered and acknowledged by the examiner.

Claim Objections

Claims 10 and 20-24 are objected to because of the following informalities: In claim 10 line 7, the examiner suggests changing "electrodelss" to - - electrodeless - -. Appropriate correction is required. In claims 20-24 line 1, the examiner suggests changing "device" to - - lamp - -.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Postma et al. U.S. Patent 4,661,746 in view of Antonis et al. U.S. Patent 5,572,083.

Regarding claim 10 Postma et al. teaches an electrodeless lamp, comprising an envelope (**lamp vessel Fig. 2 ref. 1**) containing a discharge gas (**abstract**); a magnetic material core (**ferrite cylindrical core ref. 2**) in the envelope; an induction coil (**winding ref. 4**) wound around the magnetic material core; a driver circuit (**col. 3 lines 5, 25 and 26; col. 4 lines 16-25**) for supplying an oscillatory electric current (**col. 2 lines 57-58; col. 4 lines 2 and 3**) to the induction coil to operate the electrodeless lamp and a restriction means (**layer of glass wool which is electrically and thermally insulating ref. 14**) for limiting the amount of heat generated in the magnetic material core being transmitted to the driver circuit, but fails to teach a heat conduction means thermally coupled to the magnetic material core for conducting heat generated in the magnetic material core to the outside of the electrodeless lamp. Antonis et al. in the analogous art teaches a heat conduction means thermally coupled to the magnetic material core for conducting heat generated in the magnetic material core to the outside of the electrodeless lamp (**heat conducting element rod, surface and flange ref. 23, 27 and 24; col. 3 lines 29-36**). Additionally, Antonis et al. teaches incorporation of such a heat conduction means thermally coupled to the magnetic material core for conducting heat generated in the magnetic material core to the outside of the electrodeless lamp to improve heat dissipating from the core of magnetic material (**col. 4 lines 55-59**).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a heat conduction means thermally coupled to the magnetic material core for conducting heat generated in the magnetic

Art Unit: 2879

material core to the outside of the electrodeless lamp in the electrodeless lamp of Postma since such a modification would improve heat dissipating from the core as taught by Antonis et al.

Regarding claim 11, Postma discloses an electrodeless lamp according to claim 10 wherein the restriction means is formed of a material having a thermal conductivity of 0.4 W/m*K or less. Glass wool has a thermal conductivity of ($k=4.2 \times 10^{-2}$ W/m°K.)

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Postma et al. U.S. Patent 4,661,746 in view of Antonis et al. U.S. Patent 5,572,083 and Eggink U.S. Patent 5,006,752.

Regarding claim 18, Postma and Antonis teach all the limitations of claim 18, but fails to teach a tube thermally coupled to the magnetic core having one end of the tube positioned inside the hollow portion of the magnetic material core. Eggink in the analogous art teaches a tube thermally coupled to the magnetic core having one end of the tube positioned inside the hollow portion of the magnetic material core (**heat pipe ref. 7 and 9**). Additionally, Eggink et al. teaches incorporation of such a tube to improve rapid dissipation of heat from the core (**col. 2 lines 3-7**).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a tube thermally coupled to the magnetic core having one end of the tube positioned inside the hollow portion of the magnetic material core in the electrodeless lamp of Postma and Antonis since such a modification would improve rapid heat dissipation as taught by Eggink.

Allowable Subject Matter

Claims 1-9, 12-17 and 19-24 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 1, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an electrodeless lamp including the combination of all the limitations as set forth in claim 1, and specifically a heat conduction means thermally coupled to the magnetic material core and the socket for conducting heat generated in the magnetic material core to the socket could not be found elsewhere in prior art.

Regarding claims 2-9, claims 2-9 allowed for the reasons given in claim 1, because of their dependency status on claim 1.

Regarding claim 12, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an electrodeless lamp including the combination of all the limitations as set forth in claim 12, and specifically a reconfiguration means magnetically coupled to the magnetic material core for shaping a magnetic field generated by the electric current flowing through the induction coil so as to aid in directing a resulting magnetic flux to pass through the envelope could not be found elsewhere in prior art.

Regarding claims 13 and 14, claims 13 and 14 are allowed for the reasons given in claim 12, because of their dependency status on claim 12.

Regarding claim 15, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an electrodeless lamp

Art Unit: 2879

including the combination of all the limitations as set forth in claim 15, and specifically a heat conduction means thermally coupled to the magnetic material core for conducting heat generated in the magnetic material core to the outside of the electrodeless lamp; and a heat reduction means magnetically coupled to the magnetic material core for reducing thermal influences of the magnetic fields generated by the electric current flowing through the induction coil that are exerted on the heat conduction means could not be found elsewhere in prior art.

Regarding claims 16 and 17, claims 16 and 17 are allowed for the reasons given in claim 15, because of their dependency status on claim 15.

Regarding claim 19, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an electrodeless compact lamp including the combination of all the limitations as set forth in claim 19, and specifically an enclosure secured between the envelop and a lamp holder engagement structure to provide at least in part an interior space therebetween; a magnetic field manipulation structure of a magnetically permeable material positioned adjacent the induction coils so as to separate the induction coil from most of the interior space and a primary cooling structure of a thermally conductive material positioned adjacent the magnetic field manipulation structure and in part to extend into the interior space could not be found elsewhere in prior art.

Regarding claims 20-24, claims 20-24 are allowed for the reasons given in claim 19, because of their dependency status on claim 19.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 10 and 18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 6,433,478. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 10 and 18 are anticipated by claim 2.

Response to Arguments

Applicant's arguments with respect to claims 10, 11 and 18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (703) 308-8991. The examiner can normally be reached on M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2879

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is n/a.



Glenn Zimmerman



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